What is claimed is:

1. A substrate conveyer robot provided with a rotation base driven to rotate by a first motor inside a body of a robot, possessing a pivotal center, the substrate conveyer robot wherein:

a first spindle is protruded in a state indifferent to the rotation of the rotation base, which is positioned coaxially with the pivotal center on an upper part of the rotation base, and is driven to rotate by a second motor;

one end of a first arm is attached to the first spindle;

a second spindle is protruded on the other end of the first arm in a state indifferent to the rotation of the first arm, which is rotated by a gear rate 2 : 1 by way of pulleys and a timing belt inside the first arm, accompanied with the rotation of the first arm;

one end of a second arm is attached to the second spindle;

a third spindle is protruded on the other end of the second arm in a state indifferent to the rotation of the second arm, which is rotated by a gear rate 1 : 2 by way of pulleys and a timing belt inside the second arm, accompanied with the rotation of the second arm;

a distance between the first spindle and the second spindle is equal to a distance between the second spindle and the third spindle;

one end of a third arm is attached to the third spindle;

a hand for holding a substrate is firmly attached on the other end of the third arm; and,

when the rotation angle of the rotation base is represented by θ and the rotation angle of the first arm is represented by ϕ, a control device is provided which controls the rotation angles θ and ϕ in such a manner that a center point of the substrate held by the hand, deviating from the pivotal center, moves linearly to the body of the robot on the straight line in an arbitrary direction within an accessible range of the hand, and the

substrate is handed over and taken out to and from a container, while being rotated.

2. A substrate conveyer robot as claimed in claim 1, wherein, when it is assumed that the center point of the substrate deviates from the pivotal center by a constant distance h, and moves linearly to the body of the robot on the straight line in an arbitrary direction within the accessible range of the hand, and that the distance between the first spindle and the second spindle and the distance between the second spindle and the third spindle are represented by L, and a distance between the third spindle and the center of the substrate is represented by m, the rotation angles θ and ϕ each are controlled so as to satisfy the following:

$\{m + 2 L \sin(\phi)\} \sin(\theta) = h$ (constant).

3. A substrate conveyer robot provided with a rotation base driven to rotate by a first motor inside a body of a robot, possessing a pivotal center, the substrate conveyer robot wherein:

first spindles are protruded in a state indifferent to a rotation of the rotation base, which are positioned to be offset outside by an equal distance x symmetrically with respect to the pivotal center on an upper part of the rotation base, and each are driven to rotate by second motors;

one ends of first arms are attached to the first spindles;

second spindles are protruded on the other ends of the first arms in a state indifferent to the rotation of the first arms, which are rotated each by a gear rate 2 : 1 by way of pulleys and timing belts inside the first arms, accompanied with the rotation of the first arms;

one ends of second arms are attached to the second spindles;

third spindles are protruded on the other ends of the second arms in

a state indifferent to the rotation of the second arms, which are rotated each by a gear rate 1 : 2 by way of pulleys and timing belts inside the second arms, accompanied with the rotation of the second arms;

a distance between the first spindles and the second spindles is equal to a distance between the second spindles and the third spindles;

one ends of third arms are attached to the third spindles;

hands for holding substrates are firmly attached on the other ends of the third arms;

centers of the substrates each held by the hands are positioned to be offset inside by an equal distance x to the third spindles, in a direction opposite to the direction in which the first spindles are positioned to be offset outside by the equal distance x symmetrically to the pivotal center; and

when the rotation angle of the rotation base is represented by θ and the rotation angles of the first arms are each represented by ϕ, ϕ', a control device is provided which controls the rotation angles θ and ϕ, ϕ', in such a manner that center points of the substrates held by the hands, deviating from the pivotal center, move linearly to the body of the robot on the straight lines in arbitrary directions within accessible ranges of the hands, and the substrates are handed over and taken out to and from a container or containers, while being rotated.

4. A substrate conveyer robot as claimed in claim 3, wherein, when it is assumed that the center points of the substrates deviate from the pivotal center by constant distances h, h', and move linearly to the body of the robot on the straight lines in arbitrary directions within the accessible ranges of the hands, and that the distance between the first spindles and the second spindles and the distance between the second spindles and the

third spindles are represented by L, and a distance before the offset between the third spindles and the center points of the substrates is represented by m, the rotation angles θ and ϕ, ϕ' each are controlled so as to satisfy the following:

$$\{m + 2 L \sin(\phi)\} \sin(\theta) = h \text{ (constant)},$$

or,

$$\{m + 2 L \sin(\phi')\} \sin(\theta) = h' \text{ (constant)}.$$